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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,433	01/09/2002	Seiji Yoshimura	020003	5424

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EXAMINER

YUAN, DAH WEI D

ART UNIT PAPER NUMBER

1745

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,433

Applicant(s)

YOSHIMURA ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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ALUMINUM OR ALUMINUM ALLOY-BASED LITHIUM SECONDARY BATTERY

Examiner: Yuan

S.N. 10/040,433

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January 12, 2004

Detailed Action

1. The Applicant's amendment filed on November 14, 2003 was received. The title of the invention was changed. Claim 10 was cancelled. Claims 1,4-8,11 were amended. Claims 12,13 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on September 29, 2003.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The instant specification does not disclose the positive electrode current collector consisting of either (a) an aluminum alloy containing manganese, magnesium and zinc, (b) an aluminum alloy containing manganese, zinc and copper or (c) an aluminum alloy containing manganese, magnesium and copper. If applicant believes said terms are fully defined, it is

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requested that applicant indicates column and line, and/or figure with number, identifying those aforementioned alloys.

Claim Rejections - 35 USC § 102

5. Claims 7-9,11 are rejected under 35 U.S.C. 102(e) as being anticipated by Tomiyama et al. (US 6,190,803 B1).

With respect to claims 7,11, Tomiyama et al. teach a lithium rechargeable battery comprising a positive electrode, a positive electrode current collector, a negative electrode, and a non-aqueous electrolyte. The positive electrode current collector is made of an aluminum foil containing 0.6 to 2% by weight of manganese and not more than 1.5% by weight of magnesium. See abstract.

With respect to claims 8,9, Tomiyama et al. teach the current collector may have a variety of forms, such as a film, a foil, a sheet, a net, a punched sheet, a lath, a porous body, a foamed body, a fibrous body, and so on. See Column 11, Lines 18-21.

Claim Rejections - 35 USC § 103

6. The claim rejections under 35 U.S.C. 103(a) as unpatentable over Sakamoto et al. as evidenced by Dockus et al. on claims 1,2,4-6 are withdrawn, because Applicant's arguments are persuasive. Superior capacity retention rates are achieved as shown in Table 1 of the instant specification by combining aluminum and stainless steel as stated in the claim.

Allowable Subject Matter

7. Claims 1-6 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The invention of independent claim 1 recites a lithium secondary battery comprising at least a positive electrode, a positive electrode connecting member, a negative electrode, a negative electrode connecting member and a non-aqueous electrolyte. The positive electrode connecting member comprises (1) one of aluminum and aluminum alloy, and (2) one of austenitic stainless steel and ferrite stainless steel. The closest prior art of record, Sakamoto et al., does not teach or suggest such combination for use in the positive electrode connecting member. Sakamoto reference only teaches the positive electrode current collector can be an aluminum foil, an aluminum alloy foil, a stainless steel foil, a nickel foil, and the like.

Response to Arguments

8. Applicant's arguments filed on November 14, 2003 have been fully considered but they are not persuasive.

Applicant's principle arguments are

Applicant submits that the battery in currently amended claim 7 is patentably distinguishable over Sakamoto et al., because there is nothing in the reference to suggest the use of magnesium or zinc.

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In response to Applicant's arguments, please consider the following comments.

The recitation of "an aluminum alloy used as said positive electrode current collector contains at least one type of element selected from the group consisting of magnesium and zinc in addition to said manganese" in the amended claim 1 renders the original rejections moot. However, said claim reads on the disclosure of Tomiyama reference as describe above in Paragraph 5.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and After Final communications.

Dah-Wei D. Yuan
January 13, 2004


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700